

Public Utilities--Electric  
Capital Improvement Program

## Proposed Projects--2005/06

	<b>Recurring Projects</b>	<b>Budgeted 2005/06</b>	<b>Project Total</b>
1-11	<b>Misc. Recurring Projects</b> (see schedules for details)	8,000,000 *	44,588,000
	<b>Electrical System Improvements</b>		
12	Substation Bus & Upgrades	400,000 *	2,000,000
13	Riverside Substation Additions/Upgrades	1,300,000	1,800,000
14	Mt. View Substation Additions/Upgrades	1,326,000	2,023,000
15	Major Tract Distribution (Orangecrest)	750,000	3,300,000
16	Major Feeders	200,000 *	2,450,000
17	Hunter 12kV Feeders	300,000	900,000
18	Plaza 12kV Feeders	300,000	950,000
19	SCE Condemnation Costs	450,000	450,000
20	Cable Replacement	500,000	3,400,000
21	Major Street Light Projects	200,000 *	800,000
22	Mercury Vapor Change Out	50,000 *	300,000
23	Major 4-12 kV Conversions (Plaza/Magnolia)	500,000	1,500,000
24	City-wide Communication Network	200,000 *	1,100,000
25	SCADA	1,000,000	1,421,000
	<b>Total System Improvements</b>	<b>7,476,000</b>	<b>22,394,000</b>

	<b>Projects Driven By Others</b>	<b>Budgeted 2005/06</b>	<b>Project Total</b>
25	CalTrans (non-reimbursable)	1,100,000	1,400,000
26	Mt. View Substation RERC Gen. Req.	174,000	870,000
27	Van Buren Widening	1,000,000	2,400,000
	<b>Total Projects Driven By Others</b>	<b>2,274,000</b>	<b>4,670,000</b>
	<b>Projects Reimbursed by Others</b>	<b>Budgeted 2005/06</b>	<b>Project Total</b>
28	CalTrans (reimbursable)	750,000	6,000,000
	<b>Total Projects Reimbursed by Others</b>	<b>750,000</b>	<b>6,000,000</b>
	<b>Marketing and Power Resources</b>	<b>Budgeted 2005/06</b>	<b>Project Total</b>
29	Resource Optimization Studies	25,000 *	150,000
30	San Onofre	3,377,000 *	19,248,000
31	Springs Generation Upgrades	100,000	1,000,000
32	RERC	100,000	500,000
	<b>Total Marketing and Power Resources</b>	<b>3,602,000</b>	<b>20,898,000</b>
	<b>Other Projects</b>	<b>Budgeted 2005/06</b>	<b>Project Total</b>
33	UOC Building (Transformer Shop)	1,500,000	1,500,000
	<b>Total Other Projects</b>	<b>1,500,000</b>	<b>1,500,000</b>
	<b>Total Electric Projects</b>	<b>23,602,000</b>	<b>100,050,000</b>

## Summary of Expenditures by Year

2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	Total
28,118,000	23,602,000	16,727,000	15,851,000	14,324,000	14,870,000	113,492,000

### Introduction

The six-year Capital Improvement Program for the electric system of \$113,492,000 will be required to replace outdated facilities, serve new growth and install new generating resources. Excluding the effects of Riverside Energy Resource Center (RERC), which was included last fiscal year, this plan is \$302,000 higher than prior year. The Electric CIP represents approximately 8.5 percent of total electric utility sales revenues over the next six years, which is lower than the 13.3 percent reported in last year's CIP. The proposed RERC peaking generation project is reflected in the cash flows since the project was previously budgeted in 2003/04, and is one of the projects included in the carryovers as an adjustment to the current year budget. A total of \$92 million in projects (including \$67.5 M for RERC) were budgeted in prior years, with funding carried over into the current year. These amounts are not included in the budgeted numbers above, but are included in projected cash flows.

The CIP assumes that electric consumption will grow at an annual rate of about 2.0 percent. The improvements included in the CIP are to serve areas that are within current City limits and scheduled for development. A 0.5 percent rate adder to fund an expanded undergrounding and accelerated cable replacement program became effective November 1, 2002, and is incorporated in the CIP.

The CIP is slightly higher than the established targets included in the latest strategic financial plan. Maintaining competitive rates is an important goal for the Utility; however, this must be balanced against the need for system improvements to ensure reliability. Based on cash flow projections in this plan, a new bond issue will be needed in FY 2005/06 to fund the proposed transmission and distribution related projects outlined in this CIP.

The Electric CIP is organized around six main sections: Recurring Projects, Electric System Improvements, Projects Driven by Others, Projects Reimbursed by Others, Power Resource Projects, and Other Projects.

### *Recurring Projects*

Recurring projects consist of small system improvements, services to customers, and purchase of certain types of equipment including transformers, meters, capacitors, and minor substation equipment. This equipment is used in the construction of line extensions, rebuilds and relocations, street lighting, services, substation modifications and minor repair of transmission lines.

Estimated expenditures for FY 2004/05 through FY 2009/10 are \$6.6 million more than the equivalent period in last year's CIP. The increase is primarily caused by a rise in the cost of distribution transformers (\$4.9 million) resulting from higher steel and oil prices. The budget for connecting new customers has also been increased by \$1.0 million due to the continued high level of customer activity. Amounts to be reimbursed by developers increased by \$1.1 M over the six-year period. Total expenditures over the six-year planning period for recurring projects are estimated to be \$44,588,000.

### *Electric System Improvements*

Electric System Improvements consist of identifiable major transmission and distribution projects. Major projects that were included as part of last year's CIP and retained in this plan include; 1) replacement of deteriorating underground cable for \$3.4 million, 2) completing the conversion of street lights from the mercury-vapor type to the improved high-pressure sodium type for \$0.3 million, 3) conversion of 4 kV distribution lines to 12 kV to replace deteriorated facilities and prevent

## Summary of Expenditures by Year

overloading the 4 kV system for \$3.0 million, 4) replacement of obsolete equipment and additions at various substations for \$9.5 million, and 5) installation of two power transformers for \$2.8 million.

Estimated expenditures for the period 2004/05 through 2009/10 are \$6.3 million less than the equivalent period in last year's CIP. Total expenditures over the six-year planning period for major projects are estimated to be \$31,071,000.

### *Projects Driven by Others*

Projects driven by others generally result from Public Works street-widening projects, which may or may not require undergrounding of existing electric facilities, and also overhead-to-underground beautification efforts, such as Victoria Avenue. On March 9, 1999, the City Council approved a proposed increase in the CIP from \$400,000 to \$1.0 million per year for conversion of overhead lines to underground through FY 2003/04. This CIP includes \$7.1 million for the continuation of the undergrounding program, which is partially funded through the 0.5 percent rate adder discussed above. Spending exceeds the \$1.0 million per year due to an increased number of Public Works projects, including Tyler, Van Buren, La Sierra and Market Street.

Total expenditures for the period 2004/05 through 2009/10 are 9.4 million, or \$.6 million higher than last year's CIP.

### *Projects Reimbursed by Others*

The Caltrans I-215/91/60 Interchange Project will impact existing electric utilities at many locations near these freeways. The resulting work of relocation or undergrounding of facilities will cost about \$6.0 million for the period 2004/05 through 2009/10, which will be reimbursed by the State of California, and is \$2.0 million lower than last year's CIP.

### *Power Resources Projects*

The Power Resources Projects included in the CIP total \$20,923,000, of which \$19.2 million represents the City's ownership interest for additions and betterments at the San Onofre Nuclear Generating Station (SONGS). This amount is set by Southern California Edison, the operating agent and majority owner, and adjustments are not within the control of Riverside Public Utilities. This estimate is consistent with the estimate reflected in the 2003/04 CIP budget, and will encompass various site improvements, including significant security upgrades, and possible major equipment replacement, which could result in a life extension of 10 years or more for the plant. In addition to SONGS, this plan includes \$1.0 million for general improvements to the Springs Generation Project (including \$500,000 for the catalyst replacement) and \$500,000 for the Riverside Energy Resource Center, \$150,000 for Resource Optimization programs, and \$25,000 for expenditures relating to transmission restructuring studies.

### *Other Projects*

Three major projects that have been previously funded are Casa Blanca Energy Demonstration Center, the new transformer shop and a Work Order/Work Management system. The Casa Blanca Customer Resource Center with an estimated cost of \$4.3 million, is expected to be completed in December 2005, and will be primarily repaid over a five-year period from the Public Benefits Fund.

The existing transformer shop is located in the Corporation Yard, where there is inadequate space to perform inspection, testing, storage, etc. of incoming transformers, as well as other required duties. The new \$1,500,000 transformer building will be constructed next to the UOC and will address new environmental requirements. It will be completed in 2006.

## **Summary of Expenditures by Year**

The Work Order/Work Management system was completed and the Electric Division went live with the new system in December 2004.

As stated above, this CIP contains \$7.1 million in funding for conversion of overhead electric facilities to underground, which helps fulfill the City's strategic Goal to Beautify the City. In addition, the whole of the electric CIP can be designated as promoting the general welfare of the city by providing reliable electric service at the lowest possible price.

### **City Council Priorities Addressed**

This Capital Improvement Program addresses all four of the City Council's Priorities: Growth and Annexation, Transportation, Economic Development, and Livable Communities and Neighborhoods. The Electric CIP projects help ensure a safe and reliable electric system.

Approximately \$56,224,000 or 50% of the proposed six-year program funds projects related to Growth and Annexations. These projects include major upgrades to the electric distribution system, including upgrades or additions to Riverside's substations, transformer additions, and line extensions to serve new customers.

Forty-five percent of the CIP totaling \$51,118,000 relates to improvements needed to support Livable Communities and Neighborhoods in Riverside. These projects include refurbishments of existing facilities, overhead to underground conversions, cable replacements, and capital construction at the City-owned San Onofre Nuclear Generating Station.

This CIP includes \$6,000,000 to relocate electric facilities that are impacted by highway construction, which will be reimbursed by the State of California as it results from improvements proposed for the I-215/91/60 highway project. In an indirect way, this funding supports the strategic goal of reducing traffic congestion.

Although the entire CIP results in a safe and reliable electric system and can therefore be categorized as helping Economic Development, \$150,000 is allocated for the Economic Development priority and will fund Load Management or Resource Optimization studies to help ensure a low-cost power supply and ultimately helps attract new business to Riverside.

### **Other Prioritization and Selection Criteria**

Projects are prioritized in a general sense in the following manner: fulfill the Utility's obligation to serve new customers, provide quality service to existing customers, improve efficiency of the electric delivery system in a cost-effective manner, and finally, minimize the impact of capital facilities in the service area, such as reducing visual impact.

### **Key Revenues and Funding Sources**

The Electric Capital Improvement Program is supported by debt, contributions in aid of construction, use of reserves and revenues. In this six-year CIP, approximately \$161.0 million worth of capital projects will be paid from debt, with \$9.0 million coming from contributions in aid of construction, and \$13.3 million funded by other parties. The remaining capital expenditures will be funded from revenues or retained earnings.

### **Future CIP Considerations**

The Utility is working with Southern California Edison Company (SCE) to determine the cost of constructing a 230-69 kV transmission substation within the City of Riverside. This project will reduce the City's dependence on SCE's Vista Substation for supply of electric energy.

Staff is developing a program and associated financial plan for consideration by the Board of Public Utilities that would address future CIP considerations. The plan will be presented during the Public Utility Board's long-term goal setting workshops beginning in February 2005.

Table EL 1.1  
Public Utilities - Electric Fund  
**Funding Sources**

<b>Projected Capital Requirements</b>	<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
Capital Improvement	28,118,000	23,602,000	16,727,000	15,851,000	14,324,000	14,870,000	113,492,000
Adjustment To Cash Flow	66,233,000	27,888,000	1,800,000	250,000	700,000	0	96,871,000
<b>Projected Cash Flow</b>	<b>94,351,000</b>	<b>51,490,000</b>	<b>18,527,000</b>	<b>16,101,000</b>	<b>15,024,000</b>	<b>14,870,000</b>	<b>210,363,000</b>
<b>Financing Sources</b>							
Contributions In Aid of Construction	1,325,000	1,770,000	1,615,000	1,510,000	1,390,000	1,420,000	9,030,000
Funded by Others (Cal Trans)	5,000,000	7,155,000	250,000	0	0	0	12,405,000
0.5% Rate Adder	900,000	1,000,000	1,100,000	1,100,000	1,200,000	1,200,000	6,500,000
Mercury Vapor Streetlight Changeout - Public Benefits Fund	250,000	0	0	0	0	0	250,000
Victoria Avenue Underground Funding	685,000	0	0	0	0	0	685,000
Financing Proceeds - Generation	58,000,000	21,188,000	0	0	0	0	79,188,000
Financing Proceeds	22,552,800	16,301,600	12,449,600	10,792,800	9,947,200	9,800,000	81,844,000
Revenue From Rates	5,638,200	4,075,400	3,112,400	2,698,200	2,486,800	2,450,000	20,461,000
<b>Total Funds Available</b>	<b>94,351,000</b>	<b>51,490,000</b>	<b>18,527,000</b>	<b>16,101,000</b>	<b>15,024,000</b>	<b>14,870,000</b>	<b>210,363,000</b>

Table EL 1.2  
Capital Improvement Program  
Public Utilities - Electric Fund

## Summary of Budget Requirements

		Budgeted						
Recurring Projects		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	Total
1	Distribution Line Extensions	2,012,000	2,500,000	2,250,000	2,000,000	2,000,000	2,000,000	12,762,000
2	Line Rebuilds/Relocate/Conversions	585,000	1,000,000	1,000,000	1,000,000	400,000	400,000	4,385,000
3	GO 165 Upgrades	1,300,000	1,000,000	1,000,000	1,000,000	600,000	600,000	5,500,000
4	Automated Meter Reading	0	250,000	100,000	100,000	100,000	100,000	650,000
5	Street Lighting	152,000	150,000	150,000	150,000	150,000	150,000	902,000
6	System Substation Modifications	147,000	150,000	150,000	150,000	150,000	150,000	897,000
7	Transmission Lines-General	50,000	50,000	50,000	50,000	50,000	50,000	300,000
8	Transformers	1,528,000	2,200,000	2,400,000	2,600,000	2,900,000	3,200,000	14,828,000
9	Capacitors/Regulators	29,000	50,000	50,000	50,000	50,000	50,000	279,000
10	Meters	335,000	250,000	250,000	250,000	250,000	250,000	1,585,000
11	Services	500,000	400,000	400,000	400,000	400,000	400,000	2,500,000
Total Recurring Projects		6,638,000	8,000,000	7,800,000	7,750,000	7,050,000	7,350,000	44,588,000
Electrical System Improvements		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	Total
12	Substation Bus & Upgrades	0	400,000	0	0	800,000	800,000	2,000,000
13	Security at Various Substations	650,000	0	0	0	0	0	650,000
14	Riverside Substation Additions/Upgrades	500,000	1,300,000	0	0	0	0	1,800,000
15	Mt. View Substation Additions/Upgrades	697,000	1,326,000	0	0	0	0	2,023,000
16	Hunter Substation Additions/Upgrades	0	0	1,500,000	0	0	0	1,500,000
17	La Colina Substation Additions/Upgrades	0	0	0	1,500,000	0	0	1,500,000
18	Major Tract Distribution	450,000	750,000	600,000	500,000	500,000	500,000	3,300,000
19	Hunter Transformer Addition	939,000	0	0	0	0	0	939,000
20	Plaza Transformer Addition	1,880,000	0	0	0	0	0	1,880,000
21	Major Feeders	250,000	200,000	500,000	500,000	500,000	500,000	2,450,000
22	Orangecrest 12kV Feeders (XFMR Add'n)	708,000	0	0	0	0	0	708,000
23	Hunter 12kV Feeders (XFMR Add'n)	300,000	300,000	300,000	0	0	0	900,000
24	Plaza 12kV Feeders (XFMR Add'n)	350,000	300,000	300,000	0	0	0	950,000
25	SCE Condemnation Costs	0	450,000	0	0	0	0	450,000
26	Cable Replacement	900,000	500,000	500,000	500,000	500,000	500,000	3,400,000
27	Major Street Light Projects	100,000	200,000	200,000	100,000	100,000	100,000	800,000
28	Mercury Vapor Change Out	250,000	50,000	0	0	0	0	300,000
29	Major 4-12kV Conversions	0	500,000	250,000	250,000	250,000	250,000	1,500,000
30	Downtown Conversion	1,500,000	0	0	0	0	0	1,500,000
31	City-wide Communications Network	300,000	200,000	150,000	150,000	150,000	150,000	1,100,000
32	SCADA	421,000	1,000,000	0	0	0	0	1,421,000
Subtotal System Improvements		10,195,000	7,476,000	4,300,000	3,500,000	2,800,000	2,800,000	31,071,000

Table EL 1.2  
Capital Improvement Program  
Public Utilities - Electric Fund

## Summary of Budget Requirements

<b>Projects Driven by Others</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
33	CalTrans (non-reimbursable)	100,000	1,100,000	100,000	100,000			1,400,000
34	Mt. View Substation RERC Gen. Req.	696,000	174,000	0	0	0	0	870,000
35	Major OH/UG Conversions	0	0	0	1,000,000	1,000,000	1,000,000	3,000,000
36	Tyler Widening	1,440,000	0	0	0	0	0	1,440,000
37	Van Buren Widening	400,000	1,000,000	1,000,000	0	0	0	2,400,000
38	Market Street Widening	300,000	0	0	0	0	0	300,000
<b>Subtotal Projects Driven by Others</b>		<b>2,936,000</b>	<b>2,274,000</b>	<b>1,100,000</b>	<b>1,100,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>9,410,000</b>
<b>Projects Reimbursed by Others</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
39	CalTrans (reimbursable)	5,000,000	750,000	250,000	0	0	0	6,000,000
<b>Subtotal Projects Reimbursed by Others</b>		<b>5,000,000</b>	<b>750,000</b>	<b>250,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,000,000</b>
<b>Total Electric System Improvements</b>		<b>18,131,000</b>	<b>10,500,000</b>	<b>5,650,000</b>	<b>4,600,000</b>	<b>3,800,000</b>	<b>3,800,000</b>	<b>46,481,000</b>
<b>Power Resources</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
40	Resource Optimization Studies (aka Load Mgmt)	25,000	25,000	25,000	25,000	25,000	25,000	150,000
41	San Onofre	3,199,000	3,377,000	3,052,000	3,276,000	3,249,000	3,095,000	19,248,000
42	ISO/RTO Restructuring Studies	25,000	0	0	0	0	0	25,000
43	Springs Generation Upgrades	100,000	100,000	100,000	100,000	100,000	500,000	1,000,000
44	Riverside Energy Resource Center (Acorn)	0	100,000	100,000	100,000	100,000	100,000	500,000
<b>Total Power Resources</b>		<b>3,349,000</b>	<b>3,602,000</b>	<b>3,277,000</b>	<b>3,501,000</b>	<b>3,474,000</b>	<b>3,720,000</b>	<b>20,923,000</b>
<b>Other Projects</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
45	UOC Building (Transformer Shop)	0	1,500,000	0	0	0	0	1,500,000
<b>Total Other Projects</b>		<b>0</b>	<b>1,500,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,500,000</b>
<b>Total Requirements</b>		<b>28,118,000</b>	<b>23,602,000</b>	<b>16,727,000</b>	<b>15,851,000</b>	<b>14,324,000</b>	<b>14,870,000</b>	<b>113,492,000</b>
<b>UNFUNDED PROJECTS</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
<b>Required Unfunded Projects</b>		<b>2004/05</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total</b>
46	Jurupa 230kV Project	3,000,000	0	75,000,000	35,000,000	0	0	113,000,000
<b>Total Required Unfunded</b>		<b>3,000,000</b>	<b>0</b>	<b>75,000,000</b>	<b>35,000,000</b>	<b>0</b>	<b>0</b>	<b>113,000,000</b>

Note: Future capital projects have been adjusted to account for inflation.  
and have allowed for capitalized interest within the project budget

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
<b>2004/05</b>				
<b>Recurring and Systems Improvements</b>				
1	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,012,000	0
2	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	585,000	0
3	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	1,300,000	0
4	Street Lighting	Installation of street lights. Does not include major street light projects.	152,000	0
5	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	147,000	0
6	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
7	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	1,528,000	0
8	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	29,000	0
9	Meters	Installation of meter equipment on new residential, commercial and industrial services.	335,000	0
10	Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.	500,000	0
11	Security at Various Substations	Add security equipment at five substations and integrate camera images.	650,000	0
12	Riverside Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	500,000	0
13	Mt. View Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	697,000	0
14	Major Tract Distribution	Construct distribution feeders in new major tract	450,000	0
15	Hunter Transformer Addition	Purchase major equipment for a transformer addition at Orangecrest substation.	939,000	0
16	Plaza Transformer Addition	Purchase major equipment for a transformer addition at Orangecrest substation.	1,880,000	0
17	Major Feeders	Construct major overhead and underground feeders at various locations.	250,000	0
18	Orangecrest 12kV Feeders (XFMR Add'n)	Construct major overhead and underground feeders in conjunction with the transformer addition at Orangecrest Substation.	708,000	0
19	Hunter 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at HunterSubstation.	300,000	0
20	Plaza 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at Plaza Substation.	350,000	0
21	Cable Replacement	Replace aging 12 kV feeder cable.	900,000	0
22	Major Street Light Projects	Relocate/upgrade street lights as part of Public Works projects. These projects are dependent on Public Works	100,000	0
23	Mercury Vapor Change Out	Replace mercury vapor lamps with more efficient high pressure sodium.	250,000	0
24	Downtown Conversion	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.	1,500,000	0
25	City-wide Communications	Construct "West loop" fiber optic network for phone, data and transmission line protection.	300,000	0
26	SCADA	Replacement of SCADA master station.	421,000	0
<b>Subtotal</b>			<b>16,833,000</b>	<b>0</b>



2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
<b>Projects Driven by Others</b>				
27	Cal-Trans (non-reimbursable)	System improvements in conjunction with CalTrans improvement projects.	100,000	0
28	Mt. View Substation RERC Gen. Req.	Costs of upgrades/additions specifically associated with the RERC generation project.	696,000	0
29	Tyler Widening	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	1,440,000	0
30	Van Buren Widening	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	400,000	0
31	Market Street Widening	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	300,000	0
<b>Subtotal</b>			<b>2,936,000</b>	<b>0</b>
<b>Projects Reimbursed by Others</b>				
32	Cal-Trans (reimbursable)	Relocations required in conjunction with CalTrans improvement projects.	5,000,000	0
<b>Subtotal</b>			<b>5,000,000</b>	<b>0</b>
<b>Power Resources</b>				
33	Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.	25,000	0
34	San Onofre	Replacements and betterments.	3,199,000	0
35	ISO/RTO Restructuring	General transmission planning and development expenses.	25,000	0
36	Springs Generation	General System Improvements	100,000	0
37	Riverside Energy	Two 49 MW Peaking Plants	0	0
<b>Subtotal</b>			<b>3,349,000</b>	<b>0</b>
<b>Total</b>			<b>28,118,000</b>	<b>0</b>
<b>2005/06</b>				

**Recurring and Systems Improvements**

38	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,500,000	0
39	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	1,000,000	0
40	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	1,000,000	0
41	Automated Meter Reading	Installation of automated meter reading equipment.	250,000	0
42	Street Lighting	Installation of street lights. Does not include major street light projects.	150,000	0
43	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	150,000	0
44	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
45	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	2,200,000	0
46	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	50,000	0

2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

			<b>Project Cost</b>	<b>Estimated Annual Operating Cost</b>
<b>Project</b>	<b>Description</b>			
47 Meters	Installation of meter equipment on new residential, commercial and industrial services.		250,000	0
48 Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.		400,000	0
49 Substation Bus & Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.		400,000	0
50 Riverside Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.		1,300,000	0
51 Mt. View Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.		1,326,000	0
52 Major Tract Distribution	Construct distribution feeders in new major tract		750,000	0
53 Major Feeders	Construct major overhead and underground feeders at various locations.		200,000	0
54 Hunter 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at Hunter Substation.		300,000	0
55 Plaza 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at Plaza Substation.		300,000	0
56 SCE Condemnation	Friendly condemnation of facilities in annexed areas		450,000	0
57 Cable Replacement	Replace aging 12 kV feeder cable.		500,000	0
58 Major Street Light Projects	Relocate/upgrade street lights as part of Public Works projects. These projects are dependent on Public Works		200,000	0
59 Mercury Vapor Change Out	Replace mercury vapor lamps with more efficient high pressure sodium.		50,000	0
60 Major 4-12kV	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.		500,000	0
61 City-wide Communications	Construct "West loop" fiber optic network for phone, data and transmission line protection.		200,000	0
62 SCADA	Replacement of SCADA master station.		1,000,000	0
<b>Subtotal</b>			<b>15,476,000</b>	<b>0</b>
<b>Projects Driven by Others</b>				
63 Cal-Trans (non-reimbursable)	System improvements in conjunction with CalTrans improvement projects.		1,100,000	0
64 Mt. View Substation RERC Gen. Req.	Costs of upgrades/additions specifically associated with the RERC generation project.		174,000	0
65 Van Buren Widening	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.		1,000,000	0
<b>Subtotal</b>			<b>2,274,000</b>	<b>0</b>
<b>Projects Reimbursed by Others</b>				
66 Cal-Trans (reimbursable)	Relocations required in conjunction with CalTrans improvement projects.		750,000	0
<b>Subtotal</b>			<b>750,000</b>	<b>0</b>
<b>Power Resources</b>				
67 Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.		25,000	0
68 San Onofre	Replacements and betterments.		3,377,000	0
69 Springs	General system improvements		100,000	
70 Riverside Energy Resource Ctr	General system improvements		100,000	
<b>Subtotal</b>			<b>3,602,000</b>	<b>0</b>

2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
<b>Other</b>				
71	UOC Building	Construct new transformer shop.	1,500,000	0
<b>Total</b>			<b>23,602,000</b>	<b>0</b>
<b>2006/07</b>				
<b>Recurring and Systems Improvements</b>				
72	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,250,000	0
73	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	1,000,000	0
74	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	1,000,000	0
75	Automated Meter Reading	Installation of automated meter reading equipment.	100,000	
76	Street Lighting	Installation of street lights. Does not include major street light projects.	150,000	0
77	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	150,000	0
78	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
79	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	2,400,000	0
80	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	50,000	0
81	Meters	Installation of meter equipment on new residential, commercial and industrial services.	250,000	0
82	Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.	400,000	0
83	Hunter Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	1,500,000	0
84	Major Tract Distribution	Construct distribution feeders in new major tract	600,000	0
85	Major Feeders	Construct major overhead and underground feeders at various locations.	500,000	0
86	Hunter 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at Hunter Substation.	300,000	0
87	Plaza 12kV Feeders (XFMR Add'n)	Construct major underground feeders in conjunction with the transformer addition at Plaza Substation.	300,000	0
88	Cable Replacement	Replace aging 12 kV feeder cable.	500,000	0
89	Major Street Light Projects	Relocate/upgrade street lights as part of Public Works project. These projects are dependent on Public Works schedule.	200,000	0
90	Major 4-12 kV	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.	250,000	0
91	City-wide	Fiber extensions to individual sites.	150,000	0
<b>Subtotal</b>			<b>12,100,000</b>	<b>0</b>

2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
<b>Projects Driven by Others</b>				
92	Cal-Trans (non-reimbursable)	System improvements in conjunction with CalTrans improvement projects.	100,000	0
93	Van Buren Widening	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	1,000,000	0
<b>Subtotal</b>			1,100,000	0
<b>Projects Reimbursed by Others</b>				
94	Cal-Trans (reimbursable)	Relocations required in conjunction with CalTrans improvement projects.	250,000	0
<b>Subtotal</b>			250,000	0
<b>Power Resources</b>				
95	Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.	25,000	0
96	San Onofre	Replacements and betterments.	3,052,000	0
97	Springs	General system improvements	100,000	0
98	RERC ( Acorn)	General system improvements	100,000	0
<b>Subtotal</b>			3,277,000	0
<b>Total</b>			<b>16,727,000</b>	<b>0</b>
<b>2007/08</b>				

**Recurring and Systems Improvements**

99	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,000,000	0
100	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	1,000,000	0
101	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	1,000,000	0
102	Automated Meter Reading	Installation of automated meter reading equipment.	100,000	
103	Street Lighting	Installation of street lights. Does not include major street light projects.	150,000	0
104	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	150,000	0
105	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
106	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	2,600,000	0
107	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	50,000	0
108	Meters	Installation of meter equipment on new residential, commercial and industrial services.	250,000	0
109	Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.	400,000	0
110	La Colina Substation Additions/Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	1,500,000	0
111	Major Tract Distribution	Construct distribution feeders in new major tract	500,000	0
112	Major Feeders	Construct major overhead and underground feeders at various locations.	500,000	0

2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
113	Cable Replacement	Replace aging 12 kV feeder cable.	500,000	0
114	Major Street Light Projects	Relocate/upgrade street lights as part of Public Works project. These projects are dependent on Public Works schedule.	100,000	0
115	Major 4-12kV	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.	250,000	0
116	City-wide	Fiber extensions to individual sites.	150,000	0
<b>Subtotal</b>			11,250,000	0
<b>Projects Driven by Others</b>				
117	Cal-Trans (non-reimbursable)	System improvements in conjunction with CalTrans improvement projects.	100,000	0
118	Major OH/UG Conversions (that do not include funding contributions)	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	1,000,000	0
<b>Subtotal</b>			1,100,000	0
<b>Power Resources</b>				
119	Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.	25,000	0
120	San Onofre	Replacements and betterments.	3,276,000	0
121	Springs	General system improvements	100,000	0
122	RERC (Acorn)	General system improvements	100,000	0
<b>Subtotal</b>			3,501,000	0
<b>Total</b>			<b>15,851,000</b>	<b>0</b>
<b>2008/09</b>				

**Recurring and Systems Improvements**

123	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,000,000	0
124	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	400,000	0
125	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	600,000	0
126	Automated Meter Reading	Installation of automated meter reading equipment.	100,000	
127	Street Lighting	Installation of street lights. Does not include major street light projects.	150,000	0
128	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	150,000	0
129	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
130	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	2,900,000	0
131	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	50,000	0
132	Meters	Installation of meter equipment on new residential, commercial and industrial services.	250,000	0
133	Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.	400,000	0

2004/05 to 2009/10

Public Utilities / Capital Improvements - Electric Fund

**Capital Project Descriptions**

Project		Description	Project Cost	Estimated Annual Operating Cost
134	Substation Bus & Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	800,000	0
135	Major Tract Distribution	Construct distribution feeders in new major tract	500,000	0
136	Major Feeders	Construct major overhead and underground feeders at various locations.	500,000	0
137	Cable Replacement	Replace aging 12 kV feeder cable.	500,000	0
138	Major Street Light Projects	Relocate/upgrade street lights as part of Public Works project. These projects are dependent on Public Works schedule.	100,000	0
139	Major 4-12kV	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.	250,000	0
140	City-wide	Fiber extensions to individual sites.	150,000	0
<b>Subtotal</b>			9,850,000	0
<b>Projects Driven by Others</b>				
141	Major OH/UG Conversions (that do not include funding	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	1,000,000	0
<b>Subtotal</b>			1,000,000	0
<b>Power Resources</b>				
142	Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.	25,000	0
143	San Onofre	Replacements and betterments.	3,249,000	0
144	Springs	General system improvements	100,000	0
145	RERC (Acorn)	General system improvements	100,000	0
<b>Subtotal</b>			3,474,000	0
<b>Total</b>			<b>14,324,000</b>	<b>0</b>
<b>2009/10</b>				
<b>Recurring and Systems Improvements</b>				
146	Distribution Line Extensions	Installation/extension of primary overhead and underground distribution lines to serve new residential, commercial and industrial customers.	2,000,000	0
147	Lines Rebuilds / Relocate / Conversions	Replacing of obsolete and deteriorated distribution line equipment, relocation of overhead and underground distribution lines.	400,000	0
148	GO 165 Upgrades	Inspections and upgrades to comply with CPUC adopted standards.	600,000	0
149	Automated Meter Reading	Installation of automated meter reading equipment.	100,000	0
150	Street Lighting	Installation of street lights. Does not include major street light projects.	150,000	0
151	System Substation Modifications	General modifications, replacements and improvements of substation equipment and relaying.	150,000	0
152	Transmission Lines -	Replace aging 69 kV transmission line components.	50,000	0
153	Transformers	Purchase of distribution transformers for new residential, commercial and industrial customers as well as 4 to 12 kV conversion projects.	3,200,000	0
154	Capacitors / Regulators	Purchase of new capacitors/regulators to improve voltage and power factor on feeders and replace obsolete equipment.	50,000	0
155	Meters	Installation of meter equipment on new residential, commercial and industrial services.	250,000	0
156	Services	Installation of new services to residential, commercial and industrial customers and increase in capacity of existing customers, as necessary.	400,000	0

**Capital Project Descriptions**

<b>Project</b>		<b>Description</b>	<b>Project Cost</b>	<b>Estimated Annual Operating Cost</b>
157	Substation Bus & Upgrades	Replace failing equipment, install additional equipment enclosure and improve operability and safety of station.	800,000	0
158	Major Tract Distribution	Construct distribution feeders in new major tract developments.	500,000	0
159	Major Feeders	Construct major overhead and underground feeders at various locations.	500,000	0
160	Cable Replacement	Replace aging 12 kV feeder cable.	500,000	0
161	Major Street Light Projects	Relocate/upgrade street lights as part of Public Works project. These projects are dependent on Public Works schedule.	100,000	0
162	Major 4-12kV	Upgrade aging, obsolete 4 kV facilities to the 12 kV system.	250,000	0
163	City-wide	Fiber extensions to individual sites.	150,000	0
<b>Subtotal</b>			10,150,000	0
<b>Projects Driven by Others</b>				
164	Major OH/UG Conversions (that do not include funding contributions)	Convert various overhead feeders to underground facilities for road widening projects and as a part of other projects, as appropriate.	1,000,000	0
<b>Subtotal</b>			1,000,000	0
<b>Power Resources</b>				
165	Resource Optimization Studies (Load Mgmt)	Development and implementation of resource optimization load studies.	25,000	0
166	San Onofre	Replacements and betterments.	3,095,000	0
167	Springs	Catalyst replacement	500,000	0
168	RERC (Acorn)	General System Improvements	100,000	0
<b>Subtotal</b>			3,720,000	0
<b>Total</b>			<b>14,870,000</b>	<b>0</b>
<b>Total Capital Improvements - Electric Fund</b>			<b>113,492,000</b>	